

What is claimed is:

1. An electroluminescent device comprising a cathode, an anode, and therebetween a light emitting layer containing a host material and a phosphorescent light-emitting material wherein the host material is represented by formula (1):



wherein:

A is selected from the group consisting of an unsubstituted phenylene ring, a biphenylene group, a terphenylene group, a naphthylene group, and a fluorene group; and

each of X' and X'' is an independently selected aromatic group bearing an ortho aromatic substituent.

2. An electroluminescent device according to claim 1, wherein:

A is selected from the group consisting of an unsubstituted phenylene ring, a biphenylene group, a terphenylene group, and a fluorene group; and

each of X' and X'' is an independently selected aromatic group bearing an ortho aromatic substituent and X' and X'' do not contain substituents with an aromatic fused ring.

3. An electroluminescent device according to claim 1, wherein the light-emitting layer is adjacent to a layer comprising an aluminum complex of 2-methyl-8-hydroxyquinoline.

4. An electroluminescent device according to claim 1, wherein A is selected from a biphenylene group, a terphenylene group, and a fluorene group.

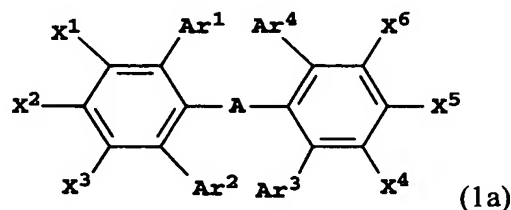
5. An electroluminescent device according to claim 1, wherein each of X' and X'' of formula (1) is an independently selected aromatic group each bearing two ortho aromatic substituents.

6. A light emitting layer according to claim 1, wherein triplet energy of the host material is higher than the triplet energy of the phosphorescent light-emitting material.

7. An electroluminescent device according to claim 1 wherein the phosphorescent material emits red light.

8. An electroluminescent device according to claim 1 wherein the phosphorescent material emits green light, and wherein the host is a material represented by formula (1), wherein A is selected from the group consisting of an unsubstituted phenylene ring, a biphenylene group, an *o*-terphenylene group, a *m*-terphenylene group, and a fluorene group.

9. An electroluminescent device according to claim 1 containing a host material and a phosphorescent light-emitting material. wherein the host material is represented by formula (1a),



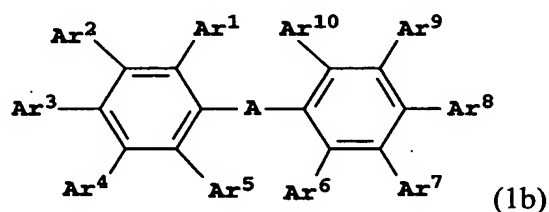
wherein,

Ar¹ – Ar⁴ represent independently selected aromatic groups; and

$X^1 - X^6$ represent hydrogen or an independently selected substituent.

10. An electroluminescent device according to claim 9, wherein the triplet energy of the host material is higher than the triplet energy of the phosphorescent light-emitting material.

11. An electroluminescent device according to claim 1, wherein the host material is represented by formula (1b),

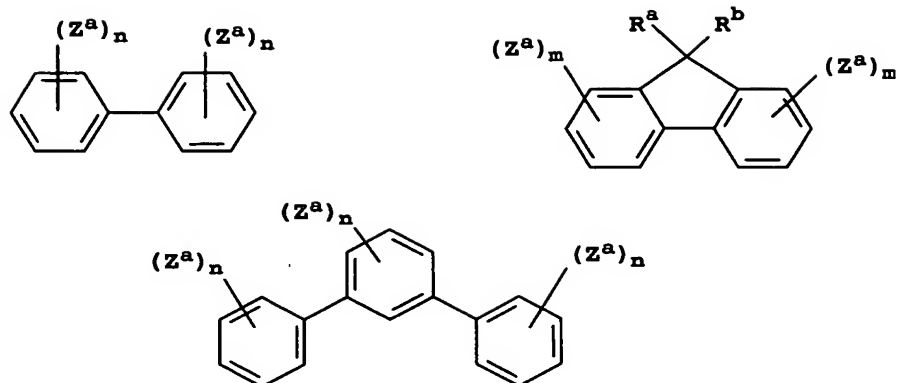


wherein:

Ar¹ – Ar¹⁰ represent independently selected aromatic groups.

12. An electroluminescent device according to claim 11 wherein the triplet energy of the host material is higher than the triplet energy of the phosphorescent light-emitting material.

13. An electroluminescent device according to claim 1 wherein A is represented by a divalent form of one of the following groups:

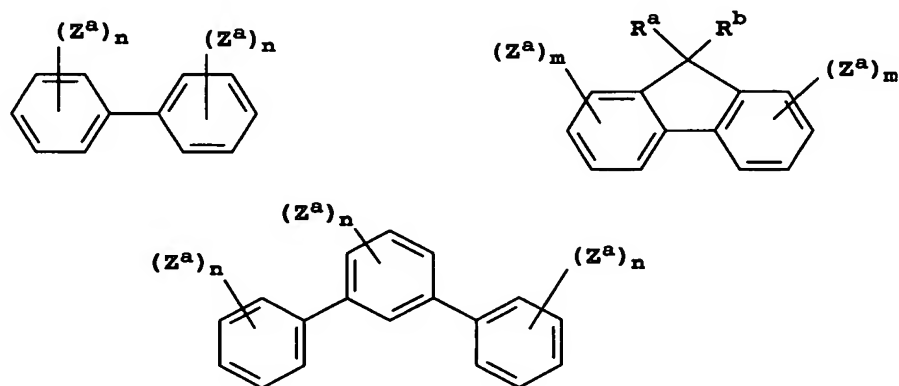


wherein,

each Z^a is an independently selected substituent and each n is independently 0 to 4, and each m is independently 0 to 3; and

R^a and R^b independently represent substituents.

14. An electroluminescent device according to claim 9, wherein the phosphorescent material emits green light and the host material is represented by formula (1a), wherein A is represented by the divalent form of one of the following groups:

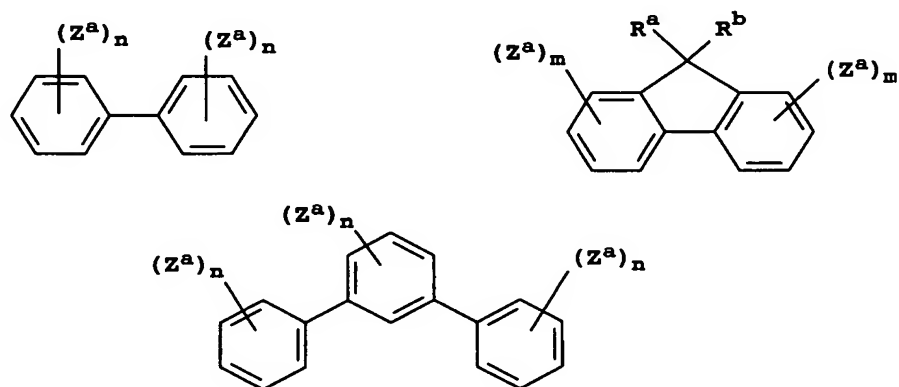


wherein,

each Z^a is an independently selected substituent and each n is independently 0 to 4, and each m is independently 0 to 3; and

R^a and R^b independently represent substituents.

15. An electroluminescent device according to claim 11 wherein a phosphorescent green light-emitting material is present and the host material is represented by formula (1b), wherein A is represented by the divalent form of one of the following groups:

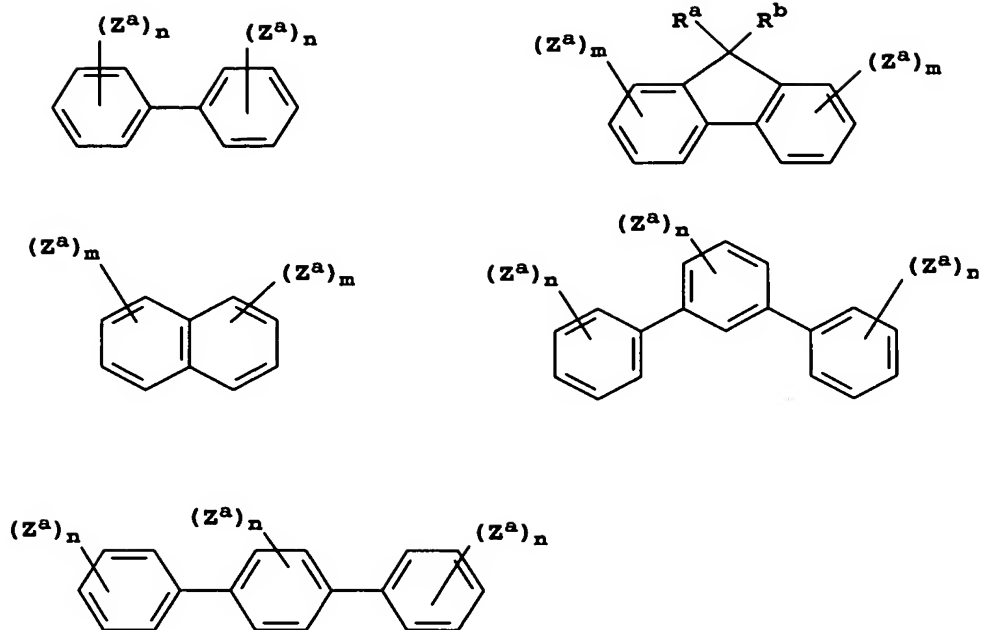


wherein,

each Z^a is an independently selected substituent and each n is independently 0 to 4, and each m is independently 0 to 3; and

R^a and R^b represent independently represent substituents.

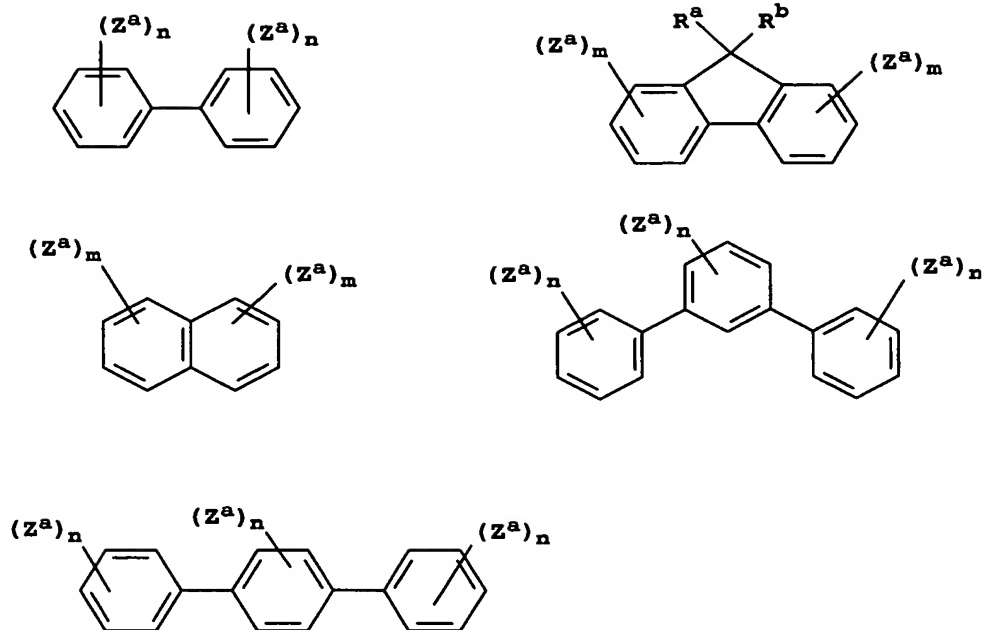
16. An electroluminescent device according to claim 1, wherein a phosphorescent red light-emitting material is present and the host material is represented by formula (1), wherein A is represented by the divalent form of one of the following groups:



wherein,

each Z^a is an independently selected substituent and each n is independently 0 to 4, and each m is independently 0 to 3; and
 R^a and R^b independently represent substituents.

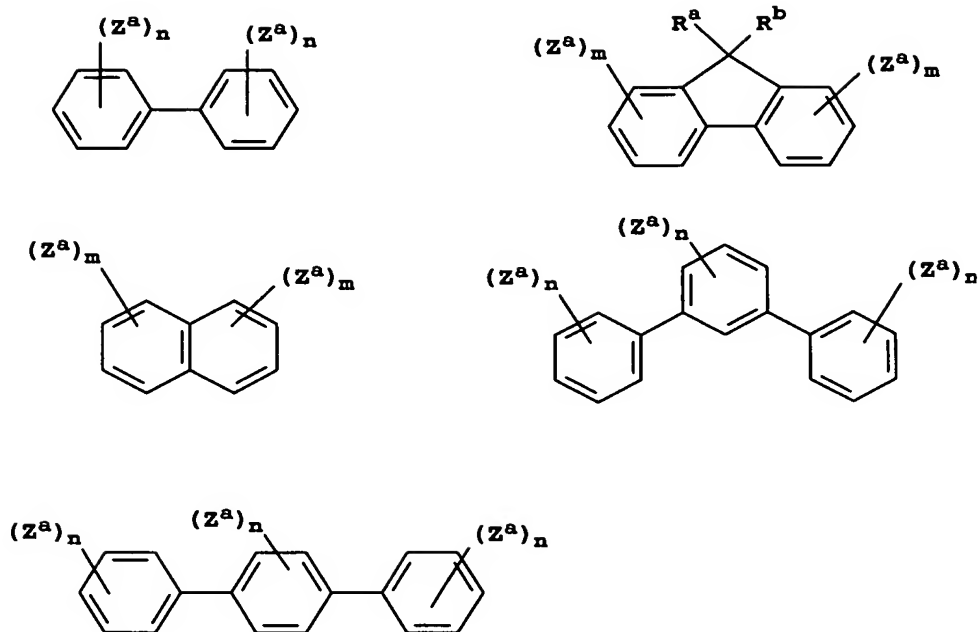
17. An electroluminescent device according to claim 9 wherein the phosphorescent material emits red light and the host material is represented by formula (1a), wherein A is represented by the divalent form of one of the following groups:



wherein,

each Z^a is an independently selected substituent and each n is independently 0 to 4, and each m is independently 0 to 3; and R^a and R^b independently represent substituents.

18. An electroluminescent device according to claim 11 wherein a phosphorescent red light-emitting material is present and the host material is represented by formula (1b), wherein A is represented by the divalent form of one of the following groups:



wherein,

each Z^a is an independently selected substituent and each n is independently 0 to 4, and each m is independently 0 to 3; and
 R^a and R^b independently represent substituents.

19. The device of claim 1 wherein the phosphorescent material is present in an amount of up to 15 wt% based on the host.

20. The device of claim 1 wherein the host material is present in an amount of 25-75 wt% and a second host material is present in amount of 75-25 wt% of the host.

21. The device of claim 20 wherein the second host material comprises a carbazole ring.

22. The device of claim 1 wherein the light-emitting material is part of a polymer.

23. The device of claim 1 wherein the host material is represented by formula (1a), wherein formula (1a) is part of a polymer.
24. The device of claim 1 including a means for emitting white light.
25. The device of claim 24 including a filtering means.
26. The device of claim 1 including a fluorescent emitting material.
27. A display comprising the OLED device of claim 1.
28. An area lighting device comprising the OLED device of claim 1.
29. A process for emitting light comprising applying a potential across the device of claim 1.